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NEWS	4	AUG 11	STN AnaVist workshops to be held in North America
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NEWS HOURS	STN Operating Hours Plus Help Desk Availability
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STRUCTURE FILE UPDATES: 30 SEP 2005 HIGHEST RN 864353-93-5
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Structure search iteration limits have been increased. See HELP SLIMITS
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Uploading C:\Program Files\Stnexp\Queries\fluor.str

L1 STRUCTURE UPLOADED

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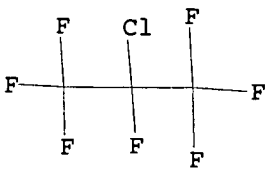
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full
FULL SEARCH INITIATED 10:15:34 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 847 TO ITERATE

100.0% PROCESSED 847 ITERATIONS 3 ANSWERS
SEARCH TIME: 00.00.01

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L2             3 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   161.76     161.97

FILE 'CAPLUS' ENTERED AT 10:15:48 ON 01 OCT 2005
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FILE LAST UPDATED: 30 Sep 2005  (20050930/ED)

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  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l2
L3          67 L2

=> s l2/prep
            67 L2
       3364700 PREP/RL
L4          27 L2/PREP
                 (L2 (L) PREP/RL)

=> s l4 and hydrogen fluoride
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          5622 HYDROGENS
        891686 HYDROGEN
                 (HYDROGEN OR HYDROGENS)
        242264 FLUORIDE
         43811 FLUORIDES
        257550 FLUORIDE
                 (FLUORIDE OR FLUORIDES)
         22712 HYDROGEN FLUORIDE
                 (HYDROGEN(W)FLUORIDE)
L5          13 L4 AND HYDROGEN FLUORIDE

=> s l5 and chlorine
        125794 CHLORINE
           770 CHLORINES
        126291 CHLORINE
                 (CHLORINE OR CHLORINES)
L6           8 L5 AND CHLORINE

=> s l5 ibib ab hitstr 1-13
MISSING OPERATOR L5 IBIB
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
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L5 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:564604 CAPLUS
DOCUMENT NUMBER: 143:84365
TITLE: Selective chromium catalyst compositions, their preparation and use for producing 1,1,2-trichloropentafluoropropane
INVENTOR(S): Sievert, Allen Capron; Rao, Velliyur Nott Mallikarjuna
PATENT ASSIGNEE(S): E.I. Dupont de Nemours and Company, USA
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005058489	A1	20050630	WO 2004-US42157	20041215

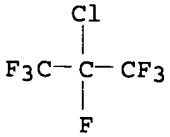
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-529921P P 20031216

AB A selective catalyst composition is disclosed which includes Cr2O3 having a BET surface area of from about 1 to about 7 m2. Also disclosed are a method for preparing the selective catalyst composition which involves calcining α-chromium oxide having a BET surface area of at least 10 m2/g at a temperature of 1000 °C to about 1200 °C for a time sufficient to produce Cr2O3 having a BET surface area of from about 1 to about 7 m2/g; and a selective catalyst composition prepared by treating a composition comprising Cr2O3 having a BET surface area of from about 1 to about 7 m2/g with a fluorinating agent. A process for the production of 1,1,2-trichloropentafluoropropane is also disclosed, which process involves reacting **hydrogen fluoride**, chlorine, and at least one halopropene of the formula CX3CCl = CClX (where each X is independently F or Cl) to produce a product comprising CF3CClFCCl2F. The CF3CClFCCl2F is produced in the presence of a catalyst composition comprising Cr2O3 having a BET surface area of from about 1 to about 7 m2/g or a catalyst composition prepared by treating such a catalyst composition with a fluorinating agent.

IT **76-18-6P**
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(chlorofluorination and fluorination of hydrocarbons with selective chromium catalyst)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:78308 CAPLUS
DOCUMENT NUMBER: 142:158395
TITLE: Method for making fluorinated propanes
INVENTOR(S): Tung, Hsueh Sung; Uhrich, Kevin D.
PATENT ASSIGNEE(S): Honeywell International Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005020863	A1	20050127	US 2003-627018	20030725
WO 2005012214	A2	20050210	WO 2004-US23457	20040722
WO 2005012214	A3	20050324		

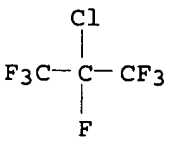
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-627018 A 20030725
OTHER SOURCE(S): CASREACT 142:158395

AB A process for the manufacture of fluoropropanes, and more particularly, the manufacture of 1,1,1,3,3,3-hexafluoropropane (HFC-236fa) and 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea). This process utilizes 3-carbon byproducts, (i.e., waste materials) from other com. processes as raw materials and also avoids the use of hexafluoropropane as a reactant for making HFC-227ea, and is able to convert any three-carbon hydrocarbon, hydrochlorofluorocarbon, chlorofluorocarbon, or any halogenated propanes and produce high-valued three-carbon hydrofluorocarbons at significantly lower cost than current com. processes.

IT **76-18-6P**, 2-Chloro-1,1,1,2,3,3,3-heptafluoropropane
RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); **PREP (Preparation)**; PROC (Process)
(in a method for making fluorinated propanes)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:182819 CAPLUS
DOCUMENT NUMBER: 140:237530
TITLE: Processes and catalysts for the preparation of

2-chloro-1,1,1,2,3,3,3-heptafluoropropane, hexafluoropropene and 1,1,1,2,3,3,3-heptafluoropropane

INVENTOR(S): Nappa, Mario J.; Rao, Velliyur Nott Mallikarjuna; Rosenfeld, H. David; Subramoney, Shekhar; Subramanian, Munirpallam A.; Sievert, Allen C.

PATENT ASSIGNEE(S): E.I. du Pont de Nemours and Company, USA

SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018397	A1	20040304	WO 2003-US26331	20030821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1539661	A1	20050615	EP 2003-793285	20030821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

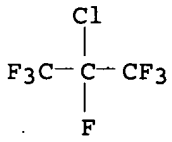
PRIORITY APPLN. INFO.: US 2002-405222P P 20020822
WO 2003-US26331 W 20030821

OTHER SOURCE(S): CASREACT 140:237530; MARPAT 140:237530

AB A process for the preparation of 2-chloro-1,1,1,3,3,3-heptafluoropropane is described which involves: (a) contacting a mixture comprising **hydrogen fluoride**, chlorine, and at least one starting material selected from halopropenes CX3CCl:CX2 (X = F, Cl; Y = H, Cl, F; provided that the number of X and Y which are F totals ≤6) and halopropanes CX3CClYCX3, where each with a chlorofluorination catalyst in a reaction zone to produce a product mixture comprising CF3CClFCF3, HCl, HF, and underfluorinated halogenated hydrocarbon intermediates. The chlorofluorination catalyst comprises at least one chromium-containing component selected from (i) a crystalline alpha-chromium oxide where at least 0.05 atom% of the chromium atoms in the alpha-chromium oxide lattice are replaced by nickel, trivalent cobalt or both nickel and trivalent cobalt, provided that no more than 2 atom% of the chromium atoms in the alpha-chromium oxide lattice are replaced by nickel and that the total amount of chromium atoms in the alpha-chromium oxide lattice that are replaced by nickel and trivalent cobalt is no more than 6 atom% , and (ii) a fluorinated crystalline oxide of (i). Also described is a process for the manufacture of a mixture of HFC-227ea and hexafluoropropene by reacting a starting mixture comprising CFC-217ba and hydrogen in the vapor phase at an elevated temperature, optionally in the presence of a hydrogenation catalyst.

IT **76-18-6P**, 2-Chloro-1,1,1,2,3,3,3-heptafluoropropane
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(processes and catalysts for the preparation of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and hexafluoropropene and 1,1,1,2,3,3,3-heptafluoropropane)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:182755 CAPLUS
DOCUMENT NUMBER: 140:219737
TITLE: Nickel-substituted and mixed nickel-and-cobalt-substituted chromium oxide compositions, their preparation, and their use as catalysts and catalyst precursors
INVENTOR(S): Nappa, Mario J.; Rao, Velliyur Nott Mallikarjuna; Rosenfeld, H. David; Subramoney, Shekhar; Subramanian, Munirpallam A.; Sievert, Allen C.
PATENT ASSIGNEE(S): E.I. du Pont de Nemours and Company, USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018095	A1	20040304	WO 2003-US26327	20030821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1551551	A1	20050713	EP 2003-793282	20030821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

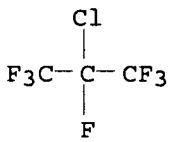
PRIORITY APPLN. INFO.: US 2002-405221P P 20020822
WO 2003-US26327 W 20030821
OTHER SOURCE(S): CASREACT 140:219737

AB A crystalline α-chromium oxide where 0.05-2 atom % of the chromium atoms in the α-chromium oxide lattice are substituted by nickel atoms, and optionally, addnl. chromium atoms in the alpha-chromium oxide lattice are substituted by trivalent cobalt atoms (provided that the total amount of the nickel atoms and the trivalent cobalt atoms in the α-chromium oxide lattice is no more than 6 atom%) is disclosed. Also disclosed is a chromium-containing catalyst composition comprising as a chromium-containing component the crystalline substituted α-chromium oxide; and a method for preparing a composition comprising the crystalline substituted α-chromium oxide. The method comprises (a) co-precipitating a solid by adding ammonium hydroxide to an aqueous solution of a soluble divalent nickel salt, a soluble trivalent chromium salt, and optionally, a soluble divalent or trivalent cobalt salt, that contains at least three moles of nitrate per mol of chromium in the solution, has a nickel concentration 0.05-2 mol% of the total of nickel, chromium, and cobalt in

the solution, and has a combined concentration of nickel and cobalt of no more than 6 mol% of the total of nickel, chromium, and cobalt in the solution; and after at least 3 mol of ammonium per mol of chromium has been added to the solution; (b) collecting the co-precipitated solid formed in (a); (c) drying the collected solid; and (d) calcining the dried solid. Also disclosed is a chromium-containing catalyst composition comprising a chromium-containing component prepared by treating said crystalline substituted -chromium oxide with a fluorinating agent; and a process for changing the fluorine distribution (i.e., content and/or arrangement) in a hydrocarbon or halogenated hydrocarbon in the presence of a catalyst. The process involves using as the catalyst a composition comprising the crystalline substituted alpha-chromium oxide and/or the treated substituted α-chromium oxide.

IT **76-18-6P**, CFC 217ba
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(nickel-substituted and mixed nickel-and-cobalt-substituted chromium oxide compns., their preparation, and their use as catalysts and catalyst precursors)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:182753 CAPLUS
DOCUMENT NUMBER: 140:201451
TITLE: Cobalt-substituted chromium oxide compositions, their preparation, and their use as catalysts and catalyst precursors
INVENTOR(S): Nappa, Mario J.; Rao, Velliyur Nott Mallikarjuna; Rosenfeld, David H.; Subramoney, Shekhar; Subramanian, Munirpallam A.; Sievert, Allen C.
PATENT ASSIGNEE(S): E.I. du Pont de Nemours and Company, USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018093	A2	20040304	WO 2003-US26326	20030821
WO 2004018093	A3	20040422		

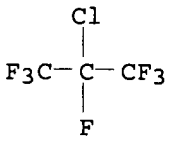
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,

FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1539347 A2 20050615 EP 2003-793281 20030821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRIORITY APPLN. INFO.: US 2002-405220P P 20020822
WO 2003-US26326 W 20030821

AB A crystalline α-chromium oxide where 0.05-6 atom% of the chromium atoms in the α-chromium oxide lattice are replaced by trivalent cobalt (Co+3) atoms is disclosed. Also disclosed is a chromium-containing catalyst composition comprising as a chromium-containing component the crystalline cobalt-substituted α-chromium oxide; and a method for preparing a composition comprising the crystalline cobalt-substituted α-chromium oxide. The method involves (a) co-precipitating a solid by adding ammonium hydroxide to an aqueous solution of a soluble cobalt salt and a soluble trivalent chromium salt that contains ≥3 mol of nitrate/mol of chromium in the solution and has a cobalt concentration 0.05-6 mol% of the total concentration of cobalt and chromium in the solution; and after at least three moles of ammonium per mol of chromium in the solution has been added to the solution, (b) collecting the co-precipitated solid formed in (a); (c) drying the collected solid; and (d) calcining the dried solid. Also disclosed is a chromium-containing catalyst composition comprising a chromium-containing component prepared by treating the crystalline cobalt-substituted -chromium oxide with a fluorinating agent; and a process for changing the fluorine distribution (i.e., content and/or arrangement) in a hydrocarbon or halogenated hydrocarbon in the presence of a catalyst. The process involves using as the catalyst a composition comprising the crystalline cobalt-substituted α-chromium oxide and/or the treated cobalt-substituted α-chromium oxide.

IT **76-18-6P**, CFC 217ba
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(cobalt-substituted chromium oxide compns., their preparation, and their use as catalysts and catalyst precursors)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:282507 CAPLUS
DOCUMENT NUMBER: 138:289365
TITLE: Materials and methods for the production and purification of chlorofluorocarbons and hydrofluorocarbons
INVENTOR(S): Iikubo, Yuichi; Owens, Stephen; Cohn, Mitchel; Brandstadter, Stephan M.; Hedrick, Vicki E.; Boggs, Janet K.; Chien, John Chengping; Sacarias, Julie
PATENT ASSIGNEE(S): Pcbu Services, Inc., USA
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003029173	A2	20030410	WO 2002-US30729	20020927
WO 2003029173	A3	20031030		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003105368	A1	20030605	US 2001-966158	20010928
CA 2462100	AA	20030410	CA 2002-2462100	20020927
EP 1430010	A2	20040623	EP 2002-780379	20020927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1558887	A	20041229	CN 2002-818973	20020927
JP 2005504824	T2	20050217	JP 2003-532428	20020927
US 2004102661	A1	20040527	US 2003-698579	20031031
US 2004102662	A1	20040527	US 2003-698730	20031031
US 2004102660	A1	20040527	US 2003-698731	20031031
US 2004102663	A1	20040527	US 2003-698923	20031031
US 2004102664	A1	20040527	US 2003-699491	20031031
ZA 2004002361	A	20050308	ZA 2004-2361	20040325
PRIORITY APPLN. INFO.:			US 2001-966158 A	20010928
			WO 2002-US30729 W	20020927

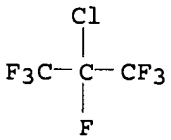
OTHER SOURCE(S): CASREACT 138:289365

AB Methods and materials are provided for the production of essentially isomerically pure perhalogenated and partially halogenated compds. One embodiment of the present invention provides a process for the production of essentially isomerically pure CFC-216aa. Other embodiments include processes for the production of CFC-217ba and HFC-227ea. Particular embodiments of the present invention provide separation techniques for the separation of chlorofluorocarbons from HF, from other chlorofluorocarbons, and the separation of isomers of halogenated compds. Still other embodiments of the present invention provide catalytic synthetic techniques that demonstrate extended catalyst lifetime. In other embodiments, the present invention provides catalytic techniques for the purification of isomeric mixts.

IT **76-18-6P**, 2-Chloroheptafluoropropane
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(materials and methods for the production and purification of chlorofluorocarbons and hydrofluorocarbons)

RN 76-18-6 CAPLUS

CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:659343 CAPLUS

DOCUMENT NUMBER: 131:273398

TITLE: Processes for the distillative purification and use of 2,2-dichloro-1,1,1,3,3,3-hexafluoropropane and its

azeotropes with HF in the manufacture of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and 1,1,1,3,3,3-hexafluoropropane

INVENTOR(S): Miller, Ralph Newton; Rao, V. N. Mallikarjuna; Swearingen, Steven H.

PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA

SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9951556	A2	19991014	WO 1999-US7224		19990401
W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9933778	A1	19991025	AU 1999-33778		19990401
EP 1068170	A2	20010117	EP 1999-915209		19990401
R: DE, FR, GB					
US 6211135	B1	20010403	US 1999-283448		19990401
JP 2002510665	T2	20020409	JP 2000-542279		19990401
PRIORITY APPLN. INFO.:			US 1998-80710P	P	19980403
			WO 1999-US7224	W	19990401

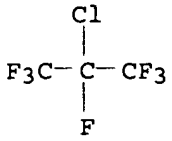
AB The separation of a mixture of HF and CF3CC12CF3 involves placing the mixture in a separation zone at 0-100° and at a pressure sufficient to maintain the mixture in the liquid phase, where an organic-enriched phase comprising <69 mol percent HF is formed as the bottom layer and an HF-enriched phase comprising >90 mol percent HF is formed as the top layer. The organic-enriched phase can be withdrawn from the bottom of the separation zone and subjected to distillation in a distillation column to recover essentially pure CF3CCl2CF3. The distillate comprising HF and CF3CCl2CF3 can be removed from the top of the distillation column, while essentially pure CF3CCl2CF3 can be recovered from the bottom of the distillation column. Also, the HF-enriched phase can be withdrawn from the top of the separation zone and subjected to distillation in a distillation column. The distillate comprising HF and CF3CCl2CF3 can be removed from the top of the distillation column while essentially pure HF can be recovered from the bottom of the distillation column; if desired, the two distillates can be recycled to the separation zone.. Also disclosed are compns. of **hydrogen fluoride** in combination with an effective amount of about 13.8 to 31.3 mol percent CF3CCl2CF3 to form an azeotrope or azeotrope-like composition with **hydrogen fluoride**. Also disclosed is a process for producing 1,1,1,3,3,3-hexafluoropropane from a mixture comprising HF and CF3CCl2CF3 by preparing essentially pure CF3CCl2CF3 as indicated above, and reacting the CF3CCl2CF3 with hydrogen.. Another process for producing 1,1,1,3,3,3-hexafluoropropane comprises contacting an azeotrope of CF3CCl2CF3 as indicated above with hydrogen and reacting the CF3CCl2CF3 with hydrogen in the presence of HF.

IT **76-18-6P**, Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro-
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(processes for the distillative purification and use of 2,2-dichloro-1,1,1,3,3,3-hexafluoropropane and its azeotropes with HF in the manufacture

of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and 1,1,1,3,3,3-hexafluoropropane)

RN 76-18-6 CAPLUS

CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:659342 CAPLUS

DOCUMENT NUMBER: 131:272325

TITLE: Processes for the distillative purification and use of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and its azeotropes with HF in the manufacture of hexafluoropropene and 1,1,1,2,3,3,3-heptafluoropropane

INVENTOR(S): Miller, Ralph Newton; Rao, V. N. Mallikarjuna; Swearingen, Steven H.

PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA

SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9951555	A1	19991014	WO 1999-US7225		19990401
W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9933779	A1	19991025	AU 1999-33779		19990401
EP 1066230	A1	20010110	EP 1999-915210		19990401
EP 1066230	B1	20030910			
R: BE, DE, ES, FR, GB, IT, NL					
JP 2002510664	T2	20020409	JP 2000-542278		19990401
US 6677493	B1	20040113	US 1999-283449		19990401
ES 2203107	T3	20040401	ES 1999-915210		19990401
PRIORITY APPLN. INFO.:			US 1998-80709P	P	19980403
			WO 1999-US7225	W	19990401

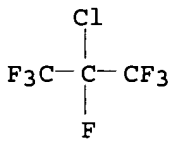
AB The separation of a mixture of HF and CF3CClFCF3 involves placing the mixture in a separation zone at a temperature of from about -30° to about +100° and at a pressure sufficient to maintain the mixture in the liquid phase, so that an organic-enriched phase comprising <50 mol percent HF is formed as the bottom layer and an HF-enriched phase comprising >90 mol percent HF is formed as the top layer. The organic-enriched phase is withdrawn from the bottom of the separation zone and subjected to distillation in a distillation column to recover essentially pure CF3CClFCF3. The distillate comprising HF and CF3CClFCF3 can be removed from the top of the distillation column while essentially pure CF3CClFCF3 can be recovered from the bottom of the distillation column. The HF-enriched phase can be withdrawn from the top of the separation

zone and subjected to distillation in a distillation column. The distillate comprising HF and CF3CClFCF3 can be removed from the top of the distillation column while essentially pure HF can be recovered from the bottom of the distillation column. If desired, the two distillates can be recycled back to the separation zone. Also disclosed are compns. of **hydrogen fluoride** in combination with an effective amount of CF3CClFCF3 to form an azeotrope-like composition with HF; included are compns. containing 38.4-47.9 mol percent CF3CClFCF3. Also disclosed are processes for producing 1,1,1,2,3,3,3-heptafluoropropane and hexafluoropropene.

IT **76-18-6P**, Propane, 2-Chloro-1,1,1,2,3,3,3-heptafluoro-
RL: PUR (Purification or recovery); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(processes for the distillative purification and use of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and its azeotropes with HF in the manufacture of hexafluoropropene and 1,1,1,2,3,3,3-heptafluoropropane)

RN 76-18-6 CAPLUS

CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:659340 CAPLUS

DOCUMENT NUMBER: 131:258061

TITLE: Process for the production of hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane

INVENTOR(S): Manogue, William H.; Nappa, Mario Joseph; Sievert, Allen Capron

PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA

SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9951553	A1	19991014	WO 1999-US7230		19990401
W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9933780	A1	19991025	AU 1999-33780		19990401
US 6018083	A	20000125	US 1999-283450		19990401
EP 1068167	A1	20010117	EP 1999-915212		19990401
EP 1068167	B1	20030903			
R: BE, DE, ES, FR, GB, IT, NL					
JP 2002510662	T2	20020409	JP 2000-542276		19990401
ES 2203108	T3	20040401	ES 1999-915212		19990401
PRIORITY APPLN. INFO.:			US 1998-80708P	P	19980403
			WO 1999-US7230	W	19990401

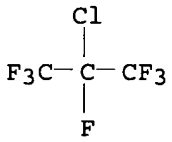
AB Hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane are manufactured by:

(A) feeding 1,1,2-trichloro-3,3,3-trifluoro-1-propene, HF, and Cl2 to a first reaction zone containing a trivalent chromium catalyst operated at 250-325° to produce an effluent comprising C3Cl3F5, C3Cl2F6, CF3CClFCF3, HCl, and HF; (B) the effluent of step A is distilled to produce (i) a low-boiling stream including HCl, (ii) a reactant stream including an azeotrope of 2-chloro-1,1,1,2,3,3,3-heptafluoropropane and HF, and (iii) a high-boiling stream including C3Cl2F6 and C3Cl3F5; (C) 2-chloro-1,1,1,2,3,3,3-heptafluoropropane of reactant stream (ii) is reacted with hydrogen in the presence of a catalyst to produce a mixture of hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane; (D) the C3Cl2F6 and C3Cl3F5 of high-boiling stream (iii) are fed along with HF to a second reaction zone containing a trivalent chromium catalyst and operated at ≥375° to produce a reaction product comprising CF3CClFCF3 and HF; and (E) the product mixture of step D is recycled to step A. A process flow diagram is presented.

IT **76-18-6P**, Propane, 2-Chloro-1,1,1,2,3,3,3-heptafluoro-
RL: IMF (Industrial manufacture); PUR (Purification or recovery); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(process for the production of hexafluoropropylene and 1,1,1,2,3,3,3-heptafluoropropane using)

RN 76-18-6 CAPLUS

CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:602977 CAPLUS

DOCUMENT NUMBER: 119:202977

TITLE: Synthesis of perfluoropropane

INVENTOR(S): Webster, James L.; Swearingen, Steven H.; Bruhnke, Douglas W.; Manzer, Leo E.; McCann, Elrey L.

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: U.S., 6 pp. Cont. of U.S. Ser. No. 734,016, abandoned.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5220083	A	19930615	US 1992-826296	19920128
PRIORITY APPLN. INFO.:			US 1989-452403	B1 19891219
			US 1991-734016	B1 19910722

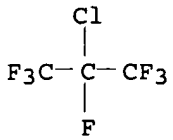
OTHER SOURCE(S): CASREACT 119:202977

AB A process carried out in the vapor phase for the preparation of perfluoropropane consisting essentially of reacting propane, propylene and partially or totally halogenated C-3 acyclic hydrocarbons with HF and Cl2 at a temperature of 100-550° in amts. such that the ratio of HF to Cl2 is between 1 and 7, in the presence of a solid metal-containing salt or oxide catalyst; and recovering the perfluoropropane is claimed. Thus, propylene was treated with excess HF in a tubular reactor over CrOx/Cr2O3 at 445° with a contact time of 0.30 s, using a flow of 35 mL/min HF, 15 mL/min Cl2, and 1.0 mL/min propylene to give 25% F3CF2CF3, 35% C3F7Cl, and 41% CF3CCl2CF3, along with 0.4% low mol. weight degradation products.

Therefore, the yield to F3CF2CF3 and recyclables was 99%.

IT **76-18-6P**, 2-Chloroheptafluoropropane
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, by chromium oxide-catalyzed chlorofluorination of propylene)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)

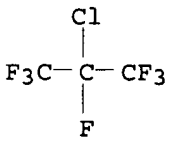


L5 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:59239 CAPLUS
DOCUMENT NUMBER: 118:59239
TITLE: Reaction of organic compounds with a sulfur tetrafluoride-**hydrogen fluoride**-halogenating agent system. VII. Reactions of olefins with the SF4-HF-Cl2(Br2) system
AUTHOR(S): Kunshenko, V. B.; Mohamed, Nagib Muhtar; Omarov, V. O.; Muratov, N. N.; Yagupol'skii, L. N.
CORPORATE SOURCE: Odess. Politekh. Inst., Odessa, Ukraine
SOURCE: Zhurnal Organicheskoi Khimii (1992), 28(4), 672-80
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 118:59239

AB Halogenated alkenes undergo halofluorination in SF4-HF-Cl2(Br2) systems. On the basis of Z- and E-1,2-dichloroethenes it was shown that these reactions proceed with anti stereospecificity via bromonium ions. The accumulation of Cl atoms in the alkene mol. hinders electrophilic addition of stoichiometric equivs. of ClF and BrF to the double bond. The SF4-HF-Br2 system is effective in fluorinating Br-containing organic compds., wherein only Br atoms on a secondary C are substituted by F.

IT **76-18-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, by halogenation of alkene in sulfur tetrafluoride-**hydrogen fluoride**-halogen system)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:20676 CAPLUS
DOCUMENT NUMBER: 116:20676
TITLE: Multistep synthesis of hexafluoropropylene from propane and propylene
INVENTOR(S): Webster, James Lang; McCann, Elrey Lorne; Bruhnke, Douglas William; Lerou, Jan Joseph; Manogue, William Henry; Manzer, Leo Ernest; Swearingen, Steven Henry; Trofimenko, Swiatoslaw; Bonifaz, Cristobal

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

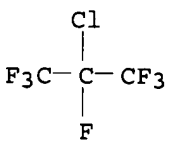
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 434409	A1	19910626	EP 1990-313951	19901219
EP 434409	B1	19941012		
R: DE, FR, GB, IT				
US 5057634	A	19911015	US 1989-452402	19891219
CA 2032273	AA	19910620	CA 1990-2032273	19901214
CA 2032273	C	20020122		
CA 2298099	C	20020108	CA 1990-2298099	19901214
JP 04145033	A2	19920519	JP 1990-411690	19901219
JP 2613683	B2	19970528		

PRIORITY APPLN. INFO.: US 1989-452402 A 19891219
CA 1990-2032273 A3 19901214

AB Hexafluoropropylene (I) is prepared by (1) chlorofluorination of at least one of propane, propylene, and partially halogenated C3 acyclic hydrocarbons with HF and Cl in the presence of a chlorofluorination catalyst to produce CF3CFClCF3 (II) and other chlorofluorocarbons such as C3F4Cl4, C3H5Cl3, CF3CFClCF2Cl, CF3CCl2CF3, and CF3CCl2CCl3 which are mostly recyclable to the same chlorofluorination step to give II and (2) dehalogenation of II to form I in the presence of a CuO-NiO-Cr2O3-CaF2 (and-MoO3) catalyst containing at least one of K, Cs, or Rb. In this process there is substantially no perfluoroisobutylene produced as a byproduct which is extremely toxic and is costly to remove and destroy. Thus, Cr2O3.3H2O was charged to an Inconel tubular reactor and treated with a flow of HF at 400° for dehydration and thereto HF 90, Cl 35, and propylene 1.5 mol/h were fed at 440° and 790 kPa to give II 75, C3F6Cl2 7, C3F5Cl3 5, C3F7H 3, C3F6ClH 5, C3F8 2 and C2F5Cl 2%. A 1:1 (mol) mixture of H and a II feed containing II 79, CF3CF2CF2Cl 17, and CF3CCl:CF2 0.7% was passed over a catalyst CuO/NiO/Cr2O3/2.7 CaF2 containing 7.9 weight% K at 402° to give 97% I with 63% conversion of II.

IT **76-18-6P**, 2-Chloro-1,1,1,3,3,3-hexafluoropropane
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and dehalogenation of, hexafluoropropylene from)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:558499 CAPLUS
DOCUMENT NUMBER: 115:158499
TITLE: Multistep synthesis of hexafluoropropylene
INVENTOR(S): Webster, James Lang; Trofimenko, Swiatoslaw; Resnick, Paul Raphael; Bruhnke, Douglas William; Lerou, Jan Joseph; Manogue, William Henry; Manzer, Leo Ernest; McCann, Elrey Lorne; Swearingen, Steven Henry; et al.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

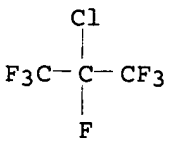
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 434408	A1	19910626	EP 1990-313950	19901219
EP 434408	B1	19940420		
R: DE, FR, GB, IT				
US 5068472	A	19911126	US 1989-452404	19891219
CA 2032278	AA	19910620	CA 1990-2032278	19901214
CA 2032278	C	20010529		
JP 04108746	A2	19920409	JP 1990-411751	19901219
JP 2613684	B2	19970528		

PRIORITY APPLN. INFO.: US 1989-452404 A 19891219

AB Claimed is a process for the preparation of hexafluoropropylene comprising: a) fluorinating or chlorofluorinating CCl3CCl:CCl2 in the presence of a catalyst by contacting CCl3CCl:CCl2 with chlorine and/or **hydrogen fluoride** (HF) to produce perhalogenated fluorocarbons; b) hydrofluorinating any unsatd. chlorofluorocarbons of step (a) by contacting with excess HF in the presence of a metal-containing catalyst to saturated perhalogenated chlorofluorocarbons; c) fluorinating the saturated perhalogenated chlorofluorocarbons resulting from steps (a) and (b) by contacting with HF in the presence of a metal-containing catalyst to produce CF3CFClCF3; and d) hydrodehalogenating said CF3CFClCF3 by contacting with hydrogen in the presence of a potassium-containing catalyst. Hydrogenation of CF3CFClCF3 in hydrogen over a catalyst containing CuO, NiO, Cr2O3, and CaF2 (which was conditioned with hydrogen at 550° for 1 h) gave hexafluoropropylene (I) with 20% conversion of CF3CFClCF3. In the presence of a catalyst containing CuO, NiO, Cr2O3, CaF2, and 7.9 weight% K, the yield of I was slightly superior to that obtained with similar catalysts containing 4.6, 8.9, 9.6, and 15.1% K.

IT **76-18-6P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and conversion of, to hexafluoropropylene)

RN 76-18-6 CAPLUS
CN Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI) (CA INDEX NAME)



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L2 3 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 10:15:48 ON 01 OCT 2005
L3 67 S L2
L4 27 S L2/PREP
L5 13 S L4 AND HYDROGEN FLUORIDE
L6 8 S L5 AND CHLORINE

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=> s l4 and chromium
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            72 CHROMIUMS
        348783 CHROMIUM
                  (CHROMIUM OR CHROMIUMS)
L7          11 L4 AND CHROMIUM

=> s l7 and (nickel or cobalt)
        586415 NICKEL
           195 NICKELS
        586442 NICKEL
                  (NICKEL OR NICKELS)
        357244 COBALT
            95 COBALTS
        357247 COBALT
                  (COBALT OR COBALTS)
L8           9 L7 AND (NICKEL OR COBALT)

=> s l8 not l5
L9           1 L8 NOT L5

=> d l9 ibib ab hitstr

L9   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         1991:558500  CAPLUS
DOCUMENT NUMBER:          115:158500
TITLE:                    Multistep synthesis of hexafluoropropylene
INVENTOR(S):              Lerou, Jan Joseph; Manzer, Leo Ernest; Manogue,
                          William Henry; Resnick, Paul Raphael; Trofimenko,
                          Swiatoslaw; Webster, James Lang; McCann, Elroy Lorne;
                          Bruhnke, Douglas William
PATENT ASSIGNEE(S):       du Pont de Nemours, E. I., and Co., USA
SOURCE:                   Eur. Pat. Appl., 14 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     EP 434407             A1    19910626    EP 1990-313949          19901219
     EP 434407             B1    19940622
         R:  DE, FR, GB, IT
     US 5043491            A     19910827    US 1989-452401          19891219
     CA 2032250            AA    19910620    CA 1990-2032250         19901214
     CA 2032250            C     20010703
     JP 04117335           A2    19920417    JP 1990-412153          19901219
     JP 2613685            B2    19970528
PRIORITY APPLN. INFO.:                       US 1989-452401      A   19891219
AB   CF3CF:CF2 (I) was prepared by chlorofluorination of a feed containing at least
     one of propane, propylene and partially halogenated three-carbon acyclic
     hydrocarbons, followed by treatment of the resulting CF3CCl:CCl2 with HF
     and chlorine and dehalogenation of the resulting CF3CFClCF3.  A 1:1 M
     mixture of hydrogen and CF3CFClCF3 (II) was passed over a BaCrO4-modified
     copper chromite catalyst at 400° and atmospheric pressure to give I with
     60 to 70% conversion of II.
IT   76-18-6P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation of, in preparation of hexafluoropropylene)
RN   76-18-6  CAPLUS
CN   Propane, 2-chloro-1,1,1,2,3,3,3-heptafluoro- (9CI)  (CA INDEX NAME)
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